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VOC FOR IOP/FN  
BACKGROUNDER NO. 1-0201  
ROD TURNBULL/KANSAS CITY

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RESEARCH AND EFFICIENT FARMING

ANNCR:

THE HISTORY OF FARMING IN THE UNITED STATES IN RECENT YEARS IS ONE OF A REMARKABLE PARTNERSHIP BETWEEN FARMERS AND SCIENTISTS. THE FARMER IS AN INDEPENDENT BUSINESSMAN -- BUT HE RELIES GREATLY ON THE SCIENTIFIC RESEARCH IN AGRICULTURE PERFORMED BY LARGE AGRICULTURALLY RELATED INDUSTRIES AND BY NATIONAL AND STATE GOVERNMENTS. FROM KANSAS CITY, AGRICULTURE SPECIALIST ROD TURNBULL HAS THE STORY.

VOICE:

RESEARCH PLAYS A MAJOR ROLE IN FARM EFFICIENCY IN AMERICA. AGRICULTURAL SCIENTISTS ARE CONSTANTLY TRYING TO FIND WAYS TO PRODUCE LARGER CROPS, BETTER QUALITY PRODUCTS AT LESS COST, TO CONTROL INSECT AND DISEASE PESTS, TO DEVELOP MACHINES THAT WOULD DO BETTER JOBS AT LESS COST, AND A HOST OF OTHER THINGS. THE SUCCESS OF THIS RESEARCH IS ATTESTED BY AMERICA'S TOTAL FARM PRODUCTION. BUT NEW PROBLEMS ALWAYS ARE DEVELOPING AND RESEARCH MUST KEEP PACE WITH EVERY DEVELOPMENT.

A GOOD EXAMPLE OF THIS WAS EXPERIENCED IN THE UNITED STATES IN NINETEEN SEVENTY WHEN A CERTAIN KIND OF FUNGUS DISEASE CALLED SOUTHERN CORN BLIGHT SWEPT OVER A LARGE PART OF THE UNITED STATES AND REDUCED CORN (MAIZE) YIELDS THAT YEAR DRASTICALLY. IRONICALLY, PART OF THE REASON THE CORN WAS SO SUSCEPTIBLE TO THIS BLIGHT WAS THAT CERTAIN STRAINS OF HYBRID CORN SEED, WERE NOT -- THE GROWERS' LEARNED WITH DISMAY, RESISTANT TO THE BLIGHT. HOWEVER,

WITH THE NEW YEAR, THE CORN SCIENTISTS, HAVING LEARNED WHAT THE PROBLEM WAS, WERE ABLE TO PRODUCE AND DISTRIBUTE SEEDS OF THE VARIETIES RESISTANT TO THE BLIGHT, AND THE NATION HAS HAD NO SERIOUS DIFFICULTIES OF THIS KIND SINCE. BUT NO ONE KNOWS WHAT CAN COME UP NEXT. THIS JUST ILLUSTRATES HOW RESEARCH AND THE APPLICATION OF SCIENCE IS A NEVER-ENDING PROCESS.

PRACTICAL RESEARCH OFTEN DEVELOPS FROM ALMOST CASUAL OBSERVATIONS. AND THERE'S A GOOD EXAMPLE OF THAT NOW AT A KANSAS EXPERIMENT STATION OPERATED BY KANSAS STATE UNIVERSITY RIGHT IN THE MIDDLE OF THE UNITED STATES. PERIODICALLY IN KANSAS AND OTHER STATES, GRASSHOPPERS WILL DAMAGE FIELDS OF ALFALFA. ALFALFA IS AMERICA'S BEST HAY CROP. IT IS POSSIBLE TO KILL THE GRASSHOPPERS WITH CHEMICAL SPRAYS, BUT THIS IS EXPENSIVE; AND IT ALSO TENDS TO LEAVE SOME SPRAY RESIDUE ON THE HAY. A FEW YEARS AGO, SOME SCIENTISTS AT THE KANSAS EXPERIMENT STATION NOTICED THAT IN AN ALFALFA FIELD THAT HAD BEEN DAMAGED HEAVILY BY GRASSHOPPERS, A FEW PLANTS SEEMED TO HAVE ESCAPED DAMAGE. SO, THEY WONDERED IF THERE WAS SOMETHING ABOUT THESE CERTAIN PLANTS WHICH KEPT THE GRASSHOPPERS OFF THEM. THEY SAVED SOME SEEDS FROM THESE PLANTS, PLANTED SOME MORE, AND HAVE BEEN EXPERIMENTING EVER SINCE.

PRIMARILY, WHAT THEY HAVE FOUND IS THAT THERE IS SOMETHING IN THIS PARTICULAR STRAIN OF ALFALFA WHICH THE GRASSHOPPERS DON'T LIKE, OR AT LEAST DON'T PREFER. WHEN INSECTS HAVE A CHOICE, THEY'LL AVOID THESE PLANTS. BUT WHEN THEY HAVE NO CHOICE, THEY'LL EAT THESE PLANTS ALSO. SO, THE RESEARCHERS ARE CONTINUING TO BREED THESE RESISTANT

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